

**REMARKS**

Claim 5 is pending in the present application. Claim 5 is amended herein to delete the phrase “human or mouse” and to specify that the CatSper3 protein is “encoded by SEQ ID NO: 1 or SEQ ID NO: 3.” No new matter is added by this amendment as support may be found throughout the specification (*see, e.g.*, ¶ 58). Claim 5 will be pending in the present application upon entry of this amendment.

All citations to paragraph numbers throughout this paper correspond to the application as published (US 2006/0257868).

**I. Rejection Under 35 U.S.C. § 102(e)**

Claim 5 was rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. 6,183,751 (“Chang”). Applicants respectfully traverse this rejection with respect to amended claim 5.

Amended claim 5 recites:

An isolated nucleic acid encoding a polypeptide having at least 95% amino acid sequence identity with a polypeptide selected from the group consisting of:

- (a) a CatSper3 protein;
- (b) at least a transmembrane domain of a CatSper3 protein;
- (c) at least an extracellular loop of a CatSper3 protein; and
- (d) at least a pore region of a CatSper3 protein;

wherein said CatSper3 protein is encoded by SEQ ID NO: 1 or SEQ ID NO: 3.

The Office Action states that SEQ ID NO: 20 of Chang:

comprises the span of nucleotide bases TCATCCTGCT corresponding to nucleotides 19901-19908. In the instant specification SEQ ID NO: 1 teaches that at nucleotide bases 617-625 the bases are TCATCCTGCT. Since the claimed invention does not recite what portion of the human or mouse CatSper3 protein must be at least 95% identical and the claimed nucleic acid is broadly interpreted to encompass a fragment, the span of nucleotides taught in SEQ ID NO.: 20 by Chang et al. above is considered anticipatory over the claimed nucleic acid (Office Action at page 3, second paragraph).

Under 35 U.S.C. § 102, “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Applicants submit that Chang does not contain each and every element of amended claim 5, and thus does not anticipate claim 5.

Claim 5 is drawn to a nucleic acid encoding a polypeptide having at least 95% amino acid sequence identity with a CatSper3 protein, or specific portions thereof: at least a transmembrane domain, extracellular loop, or pore region. These terms are defined in the specification (see, e.g., ¶¶ 36, 60, 62-63). It is a “well-established axiom in patent law that a patentee or applicant is free to be his or her own lexicographer” (MPEP 8th Ed., Rev. 6, Sept. 2007 § 2173.05(b) III at 2100-221).

The nucleotide sequence TCATCCTGC (*i.e.*, bases 19901-19908 of SEQ ID NO: 20 of Chang, and bases 617-625 of SEQ ID NO: 1 of the instant application) corresponds to a portion of the codon for amino acid 206, the codons for amino acids 207-208, and a portion of the codon for amino acid 209 of SEQ ID NO: 2 of the instant application. These amino acids (*i.e.*, residues 206-209 of SEQ ID NO:2) do not correspond to “at least a transmembrane domain,” “at least an extracellular loop,” or “at least a pore region,” of a CatSper3 protein as these terms are defined in ¶¶ 62-63 of the instant application, let alone to

“a CatSper3 protein” as defined in ¶¶ 36 and 60 of the instant application. Thus Chang does not contain each and every element of claim 5.

In addition, Applicants object to the assertion in the Office Action that “the claimed nucleic acid is broadly interpreted to encompass a fragment” (Office Action at page 3, second paragraph. The specification states that “[a] fragment of a CatSper3 protein comprises at least six amino acid residues” (¶ 36). However, claim 5 recites different terms that are specifically defined in the specification, and that specifically do not constitute “fragments” as defined in the specification (or as apparently intended by the Office Action). For example, the transmembrane domains of the CatSper3 proteins, as defined at ¶¶ 62-63, are polypeptides of 24-48 amino acid residues, the extracellular loops are polypeptides of 5-36 amino acid residues, and the pore regions are polypeptides of 8-9 amino acid residues. These are not arbitrary fragments of the CatSper3 proteins, and cannot be encoded by “any span of nucleotides that would encompass two or more nucleotides” as suggested in the Office Action.

Therefore, Chang does not contain each and every element of claim 5, and does not anticipate claim 5. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under § 102.

## **II. Rejection Under 35 U.S.C. § 112, First Paragraph**

Claim 5 was rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement (Office Action at pages 3-5). The Office Action states that “the specification teaches only the nucleotide sequences disclosed in SEQ ID NO’s 1 (human) and 3 (mouse) with regard to CatSper3” (Office Action at page 4, second paragraph).

Without acquiescing to the propriety of this rejection, and solely to expedite prosecution, claim 5 has been amended herein to make specific reference to SEQ ID NOs 1 and 3. The terms “transmembrane domain,” “extracellular loop,” and “pore region” are explicitly defined in the specification with respect to those sequences (*see* ¶¶ 62-63).

In view of the instant amendment to the claims, Applicants respectfully submit that claim 5 fully satisfies the written description requirement. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

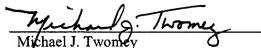
**CONCLUSION**

In view of the foregoing amendment and remarks, Applicants believe the pending application is in condition for allowance.

A petition and authorization for a one-month extension of time for response is submitted herewith. No other fees are believed to be due in connection with this filing. However, please charge any payments due or credit any overpayments to Deposit Account No. 08-0219, under Order No. 0110313.00138US2, from which the undersigned is authorized to draw.

Respectfully submitted,

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